

Datasheet for ABIN129675

anti-SMAD3 antibody (pSer423, pSer425)

7 Images

18 Publications

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Overview

Quantity:	100 µg
Target:	SMAD3
Binding Specificity:	AA 417-425, pSer423, pSer425
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This SMAD3 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC)

Product Details

Immunogen:	This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to amino acids 417-425 of human SMAD3 protein.
Isotype:	IgG
Cross-Reactivity:	Xenopus laevis, Xenopus tropicalis, Zebrafish (Brachydanio rerio), Rat (Rattus), Mouse (Murine), Pig (Porcine), Sheep (Ovine), Chicken
Characteristics:	Concentration Definition: by UV absorbance at 280 nm

Target Details

Target:	SMAD3
Alternative Name:	SMAD3 (SMAD3 Products)

Target Details

Background:	<p>This antibody is designed, produced, and is suitable for Cancer, Immunology and Nuclear Signaling research. Smad3 (also known as Mothers against decapentaplegic homolog 3 Mothers against DPP homolog 3, Mad3, hMAD-3, JV15-2 or hSMAD3) is a transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinase. These activators exert diverse effects on a wide array of cellular processes. The Smad proteins mediate much of the signaling responses induced by the TGF-b superfamily. Briefly, activated type I receptor phosphorylates receptor-activated Smads (R-Smads) at their c-terminal two extreme serines in the SSXS motif, e.g. Smad2 and Smad3 proteins in the TGF-b pathway, or Smad1, Smad5 or Smad8 in the BMP pathway. Then the phosphorylated R-Smad translocated into nucleus, where they regulate transcription of target genes. Based on microarray and animal model experiments, Smad3 accounts for at least 80% of all TGF-b-mediated response.</p> <p>Synonyms: hMAD 3 antibody, hSMAD3 antibody, MADH3 antibody, MGC60396 antibody, Mothers against decapentaplegic homolog 3 antibody, Mothers against DPP homolog 3 antibody</p>
Gene ID:	4088, 5174513
UniProt:	P84022
Pathways:	Cell Division Cycle , Chromatin Binding , Cell-Cell Junction Organization , Positive Regulation of Endopeptidase Activity , Autophagy

Application Details

Application Notes:	<p>This affinity purified antibody has been tested for use in ELISA, immunohistochemistry and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 48 kDa in size corresponding to phosphorylated Smad3 protein by western blotting in the appropriate stimulated tissue or cell lysate or extract. Less than 0.2% reactivity is observed against the non-phosphorylated form of the immunizing peptide. This antibody is phospho specific for dual phosphorylated pS423 and pS425 of Smad3. Stimulation with 2 ng/ml TGF-beta for 1 hour is suggested.</p>
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1.0 mg/mL

Handling

Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	Sodium azide
Precaution of Use:	This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C

Publications

Product cited in:

Hutchinson, Darling, Nicolaou, Gori, Squair, Cohen, Hill, Sapkota: "Salt-inducible kinases (SIKs) regulate TGF β -mediated transcriptional and apoptotic responses." in: **Cell death & disease**, Vol. 11, Issue 1, pp. 49, (2020) ([PubMed](#)).

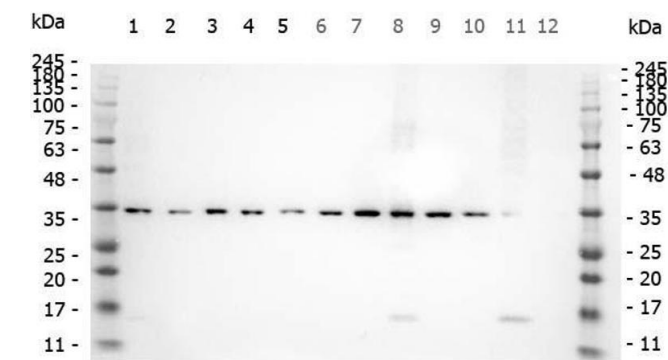
Stappenbeck, Wang, Tang, Zhang, Parhami: "Inhibition of Non-Small Cell Lung Cancer Cells by Oxy210, an Oxysterol-Derivative that Antagonizes TGF β and Hedgehog Signaling." in: **Cells**, Vol. 8, Issue 10, (2020) ([PubMed](#)).

Feng, Tang, Huang, Sun, You, Xiao, Lv, Xu, Lan: "TGF- β Mediates Renal Fibrosis via the Smad3-ErbB4-IR Long Noncoding RNA Axis." in: **Molecular therapy : the journal of the American Society of Gene Therapy**, Vol. 26, Issue 1, pp. 148-161, (2019) ([PubMed](#)).

Subramanian, Kanzaki, Galloway, Schilling: "Mechanical force regulates tendon extracellular matrix organization and tenocyte morphogenesis through TGF β signaling." in: **eLife**, Vol. 7, (2019) ([PubMed](#)).

Gao, Kanasaki, Li, Kitada, Okazaki, Koya: " β klotho is essential for the anti-endothelial mesenchymal transition effects of N-acetyl-seryl-aspartyl-lysyl-proline." in: **FEBS open bio**, Vol. 9, Issue 5, pp. 1029-1038, (2019) ([PubMed](#)).

There are more publications referencing this product on: [Product page](#)



Western Blotting

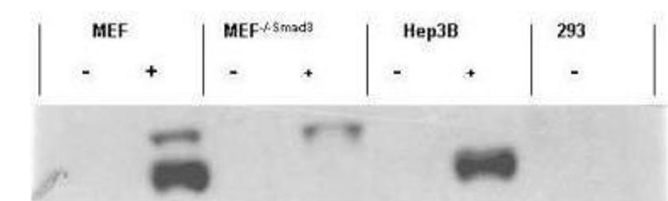
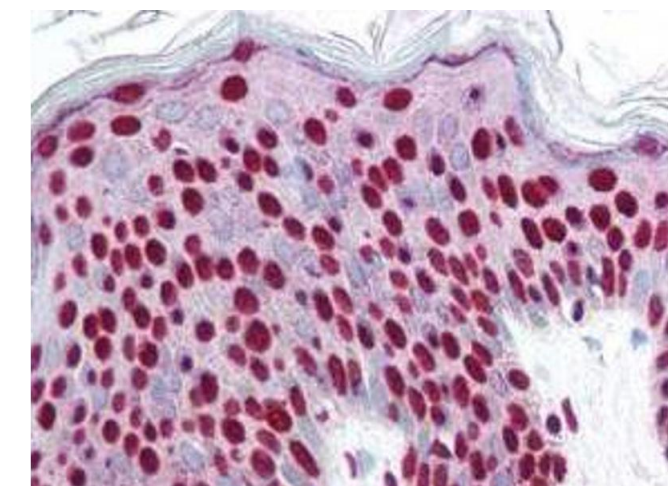
Image 1. Western Blot of Rabbit anti-SMAD3 pS423 pS425 antibody. Marker: Opal Pre-stained ladder . Lane 1: HEK293 lysate . Lane 2: HeLa Lysate . Lane 3: MCF-7 Lysate . Lane 4: Jurkat Lysate . Lane 5: A431 Lysate . Lane 6: A549 Lysate . Lane 7: LNCap Lysate . Lane 8: MOLT-4 Lysate . Lane 9: Ramos Lysate . Lane 10: Raji Lysate . Lane 11: A-172 Lysate . Lane 12: NIH/3T3 Lysate . Load: 10 µg per lane. Primary antibody: SMAD3 pS423 pS425 antibody at 1ug/mL overnight at 4C. Secondary antibody: Peroxidase rabbit secondary antibody at 1:30,000 for 60 min at RT. Blocking Buffer: 1% Casein-TTBS for 30 min at RT. Predicted/Observed size: 35 kDa for SMAD3 pS423 pS425

Immunohistochemistry

Image 2. affinity purified anti-Smad3 pS423 pS425 antibody was used at 2.5 µg/ml to detect signal in a variety of tissues including multi-human, multi-brain and multi-cancer slides. This image shows strong nuclear staining in the majority of epidermal keratinocytes at 40X. Tissue was formalin-fixed and paraffin embedded. The image shows localization of the antibody as the precipitated red signal, with a hematoxylin purple nuclear counterstain. Personal Communication, Tina Roush, LifeSpanBiosciences, Seattle, WA.

Western Blotting

Image 3. Western blot using affinity purified anti-Smad3 pS423 pS425 antibody shows detection of endogenous Smad3 in stimulated cell lysates. Lysates were prepared from control cells (- lanes), or cells stimulated with 2 ng/ml TGF (+lanes) for 1 hour. This reagent recognizes phosphorylated Smad3 and has negligible reactivity against non-phosphorylated Smad3 protein. Personal Communication. Ying Zhang, NIH, CCR, Bethesda, MD.



Images

Please check the [product details page](#) for more images. Overall 7 images are available for ABIN129675.